SEA TURTLE PROTECTION PLAN

HILTON HEAD ISLAND, SC
2005/06 BEACH RESTORATION PROJECT

1. Background

Sea turtle nesting activities are documented annually along the Hilton Head Island oceanfront shoreline through the Sea Turtle Protection Project presently managed by the Museum of Hilton Head Island. The Sea Turtle Protection Project for Hilton Head coordinates all turtle monitoring and nest relocation activities with the South Carolina Department of Natural Resources (SCDNR). Monitoring activities include morning patrols and surveys to identify successful nests and false crawls, marking nests for avoidance as necessary, and relocating nests that are determined to be potentially threatened by beach use or inundation.

The information collected through this project is compiled and archived by the Museum. The database offers temporal and spatial nesting and false crawl information. **Figure 1** summarizes the total documented nests and false crawls along the island for the years 1985 through 2003. **Figure 2** is an example of the spatial distribution of sea turtle nesting activity along the island for the period 1999 through 2003. Nests are located with GPS positioning and related to the Town beach marker system.

The Sea Turtle Protection Project representative for the Town of Hilton Head Island is Mr. Ed Drane, AIA, AICP. Prior to the 1997 beach renourishment project, about 75 percent of all sea turtle nests island-wide were relocated for protection from inundation. Although this rate reduced significantly following the 1997 project, recent conversations with Mr. Drane (June 2004) indicate that sea turtle nest relocations continue to occur for those nests deposited along areas where narrow beach conditions presently exist and excessive inundation is expected. As the beach along the proposed project area continues to erode prior to each scheduled maintenance (approximately 7 to 8 years), the occurrence of false crawls and the requirement for nest relocations is expected to increase. Accordingly, renourishment of the island's beaches is an integral component of sea turtle nesting habitat preservation and enhancement.

For the proposed 2005/06 beach renourishment project, the Town is seeking permission to construct the project anytime throughout the year. This will offer the Applicant an opportunity to consider the operational effects of construction activities upon peak beach use seasons and potentially maximize project construction efficiency and minimize project costs. The Applicant has successfully constructed both the 1990 and 1997 projects during the spring, summer, and fall seasons with no adverse impact to marine turtles. As with prior beach nourishment projects constructed at Hilton Head Island, the Applicant intends to implement a comprehensive Sea Turtle Protection Plan when construction activities occur during sea turtle nesting season. The elements of this plan are described in the following section.

2. Sea Turtle Conservation and Protection during Beach Nourishment Construction

2.1 Beginning April 15 through October 15, the Applicant shall implement a project specific Sea Turtle Protection Plan to the satisfaction of the SCDNR and the US Fish and Wildlife Service (USFWS). The Plan shall include:

- Daily sea turtle nest surveys every morning along the entire project area beginning April 15 and extending through at least October 15.
- Relocation of deposited nests within the project areas, as necessary.
- Continuous night-time turtle monitoring within the areas of active project construction.

All personnel performing nest surveys, nest relocation, and night-time monitoring activities shall be certified and/or approved by the SCDNR and the USFWS. The Applicant shall assist the implementation of the Plan through coordination with the dredge contractor and by providing transportation and access of turtle survey, nest relocation, and monitoring personnel.

2.2 The Applicant's turtle relocation program shall only relocate those nests which will be affected by construction activities, or determined to be in jeopardy as a result of spring tides. Any such nests discovered shall be relocated between sunrise and 9:00 AM each day to a nearby self-release beach site, or a secure hatching area where artificial lighting will not interfere with hatchling orientation. Relocation site(s) shall be approved by the State prior to usage, and may include a non-beach hatchery, if appropriate. If necessary, self-releasing screens or above ground individuals cages shall be utilized on relocated nests to exclude predators. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests, or as required to protect nests considered vulnerable to spring high tides or initial beach berm equilibration processes.

2.3 The Applicant shall perform night-time turtle monitoring within areas undergoing active construction during the hours of 9:00 PM – 6:00 AM for the entire construction period. The purpose of the night-time monitoring is to provide specific attention to potential sea turtle activities around the active work site.

2.4 During the loggerhead turtle nesting and hatching season (May 1 to October 15), construction pipes which are placed on the beach shall be placed parallel to the shoreline and located as far landward as practicable without compromising the integrity of any existing or reconstructed dune

system. Temporary storage of pipes and equipment shall be as far landward as practicable on the beach without compromising the integrity of any existing dune system if temporary storage on the beach is necessary.

2.5 During the loggerhead turtle nesting and hatching season (May 1 to October 15), all lighting associated with the project shall be limited to the immediate area of active construction only. Such lighting shall be the minimal lighting necessary to comply with the appropriate, applicable safety requirements, and shall incorporate reduced wattage, downlights, special fixtures and/or screens to minimize illumination of the nesting beach and nearshore waters. Lighting on offshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement of lights to avoid excessive illumination of the water, while meeting all Coast Guard and applicable safety requirements. Shielded low pressure sodium vapor lights are highly recommended for all lights on the beach or on offshore equipment where lighting cannot be eliminated.

2.6 Subsequent to nourishment activities, each section of the beach will be tilled and graded smooth to minimize impacts to future turtle nesting activities from abnormal compaction of sands. During tilling, the fill berm will be plowed to a depth of at least 36 inches immediately following completion of beach nourishment. All tilling activities will be accomplished outside the sea turtle nesting/hatching season with the exception of the time windows allowed herein. All tilling operations shall be accompanied by appropriate grading sufficient to level of beach berm such that it will not adversely affect turtle nesting activities.

2.7 The Applicant shall inspect the beach for compaction and escarpment formation immediately prior to sea turtle nesting season for three (3) consecutive years following the completion of the project. The permittee shall also measure sand compaction in the project area in accordance with a protocol agreed to by the SCDNR, USFWS, and the Applicant to determine if tilling is necessary. If it is determined that tilling is necessary, the Applicant shall till those areas to 36 inches and grade the areas smooth. Also, if an escarpment greater than 18 inches high extends for a distance of 100 feet or more, the Applicant shall level the escarpment. Alternatively, the Applicant may arrange for the USFWS, or the SCDNR, to visit the project site immediately prior to the nesting season. If the agency determines that the escarpment may hinder sea turtle nesting efforts, the Applicant will level the escarpment immediately prior to the onset of the sea turtle nesting season (*i.e.* by 1 May). Otherwise the tilling requirement may be waived by the Agency for that year.

2.8 Upon request, the Applicant shall arrange a meeting with the participation of the Contractor, the USFWS, the SCDNR and representatives of the Sea Turtle Protection Project prior to initiating construction. This will allow

agencies to explain the permit-related turtle protection measures and the Sea Turtle Protection Plan to the Contractor.

2.9 The project design will not provide for filling on the face of any erosion control structures above the design elevation in those areas where the project fill berm intersects existing rock revetments, seawalls, etc. This restriction does not apply to shore perpendicular groins.

2.10 Sea oats or other indigenous salt tolerant vegetation will be planted, as necessary, to create additional and maintain existing dunes seaward of the continuous 8,000 feet of rock revetted shoreline within the North Forest Beach section of the project. All sand fencing will meet State installation guidelines necessary to protect sea turtles.